

APPENDIX: Marked Up Claims as Pending Upon Entry of the Amendment

1. (amended) [A]An isolated or purified nucleic acid segment comprising a nucleic acid sequence encoding a 3-keto-acyl-CoA reductase protein, wherein the nucleic acid sequence is selected from the group consisting of:

a nucleic acid sequence at least about 80% identical to SEQ ID NO:8[;] which
[a nucleic acid sequence that]hybridizes under stringent conditions to SEQ ID NO:8 or the complement thereof; and
a nucleic acid sequence encoding a protein at least about 80% identical to SEQ ID NO:9[; and] which
[a nucleic acid sequence encoding a protein that] is immunoreactive with an antibody [prepared using SEQ ID NO:9 as an antigen, the antibody being] immunoreactive with SEQ ID NO:9.

3. A recombinant vector comprising in the 5' to 3' direction:
a) a promoter that directs transcription of a structural nucleic acid sequence encoding a 3-keto-acyl-CoA reductase protein;
b) a structural nucleic acid sequence encoding a 3-keto-acyl-CoA reductase protein;
wherein the structural nucleic acid sequence is selected from the group consisting of:

a nucleic acid sequence at least about 80% identical to SEQ ID NO:8;
a nucleic acid sequence that hybridizes under stringent conditions to SEQ ID NO:8 or the

complement thereof;

a nucleic acid sequence encoding a protein at least about 80% identical to SEQ ID NO:9;

and

a nucleic acid sequence encoding a protein that is immunoreactive with an antibody prepared using SEQ ID NO:9 as an antigen, the antibody being immunoreactive with SEQ ID NO:9; and

c) a 3' transcription terminator.

4. A recombinant cell comprising a nucleic acid segment encoding a 3-keto-acyl-CoA reductase protein, wherein the nucleic acid segment is selected from the group consisting of:

a nucleic acid sequence at least about 80% identical to SEQ ID NO:8;

a nucleic acid sequence that hybridizes under stringent conditions to SEQ ID NO:8 or the complement thereof;

a nucleic acid sequence encoding a protein at least about 80% identical to SEQ ID NO:9;

and

a nucleic acid sequence encoding a protein that is immunoreactive with an antibody prepared using SEQ ID NO:9 as an antigen, the antibody being immunoreactive with SEQ ID NO:9.

5. A genetically transformed plant cell comprising in the 5' to 3' direction:

a) a promoter that directs transcription of a structural nucleic acid sequence

encoding a 3-keto-acyl-CoA reductase protein;

- b) a structural nucleic acid sequence encoding a 3-keto-acyl-CoA reductase protein;

wherein the structural nucleic acid sequence is selected from the group consisting of:

- a nucleic acid sequence at least about 80% identical to SEQ ID NO:8;

- a nucleic acid sequence that hybridizes under stringent conditions to SEQ ID NO:8 or the complement thereof;

- a nucleic acid sequence encoding a protein at least about 80% identical to SEQ ID NO:9;

and

- a nucleic acid sequence encoding a protein that is immunoreactive with an antibody prepared using SEQ ID NO:9 as an antigen, the antibody being immunoreactive with SEQ ID NO:9;

- c) a 3' transcription terminator; and

- d) a 3' polyadenylation signal sequence that directs the addition of polyadenylate nucleotides to the 3' end of RNA transcribed from the structural nucleic acid sequence.

6. A genetically transformed plant comprising in the 5' to 3' direction:

- a) a promoter that directs transcription of a structural nucleic acid sequence encoding a 3-keto-acyl-CoA reductase protein;

- b) a structural nucleic acid sequence encoding a 3-keto-acyl-CoA reductase protein;

wherein the structural nucleic acid sequence is selected from the group consisting of:

a nucleic acid sequence at least about 80% identical to SEQ ID NO:8;

a nucleic acid sequence that hybridizes under stringent conditions to SEQ ID NO:8 or the complement thereof;

a nucleic acid sequence encoding a protein at least about 80% identical to SEQ ID NO:9;
and

a nucleic acid sequence encoding a protein that is immunoreactive with an antibody prepared using SEQ ID NO:9 as an antigen, the antibody being immunoreactive with SEQ ID NO:9;

c) a 3' transcription terminator; and

d) a 3' polyadenylation signal sequence that directs the addition of polyadenylate nucleotides to the 3' end of RNA transcribed from the structural nucleic acid sequence.

9. [A]An isolated or purified nucleic acid segment comprising a nucleic acid sequence encoding a polyhydroxyalkanoate synthase protein, wherein the nucleic acid segment is selected from the group consisting of:

a nucleic acid sequence at least about 80% identical to SEQ ID NO:10[;]which

[a nucleic acid sequence that] hybridizes under stringent conditions to SEQ ID NO:10 or the complement thereof;and

a nucleic acid sequence encoding a protein at least about 80% identical to SEQ ID NO:11[; and] which

[a nucleic acid sequence encoding a protein that]is immunoreactive with an antibody
[prepared using SEQ ID NO:11 as an antigen, the antibody being] immunoreactive with SEQ ID
NO:11.

11. A recombinant vector comprising in the 5' to 3' direction:

- a) a promoter that directs transcription of a structural nucleic acid sequence
encoding a polyhydroxyalkanoate synthase protein;
- b) a structural nucleic acid sequence encoding a polyhydroxyalkanoate synthase
protein; wherein the structural nucleic acid sequence is selected from the group consisting of:
 - a nucleic acid sequence at least about 80% identical to SEQ ID NO:10;
 - a nucleic acid sequence that hybridizes under stringent conditions to SEQ ID NO:10 or
the complement thereof;
 - a nucleic acid sequence encoding a protein at least about 80% identical to SEQ ID
NO:11; and
 - a nucleic acid sequence encoding a protein that is immunoreactive with an antibody
prepared using SEQ ID NO:11 as an antigen, the antibody being immunoreactive with SEQ ID
NO:11; and
- c) a 3' transcription terminator.

12. A recombinant host cell comprising a nucleic acid segment encoding a
polyhydroxyalkanoate synthase protein, wherein the nucleic acid segment is selected from the

group consisting of:

- a nucleic acid sequence at least about 80% identical to SEQ ID NO:10;
- a nucleic acid sequence that hybridizes under stringent conditions to SEQ ID NO:10 or the complement thereof;
- a nucleic acid sequence encoding a protein at least about 80% identical to SEQ ID NO:11; and
- a nucleic acid sequence encoding a protein that is immunoreactive with an antibody prepared using SEQ ID NO:11 as an antigen, the antibody being immunoreactive with SEQ ID NO:11.

13. A genetically transformed plant cell comprising in the 5' to 3' direction:
- a) a promoter that directs transcription of a structural nucleic acid sequence encoding a polyhydroxyalkanoate synthase protein;
 - b) a structural nucleic acid sequence encoding a polyhydroxyalkanoate synthase protein; wherein the structural nucleic acid sequence is selected from the group consisting of:
 - a nucleic acid sequence at least about 80% identical to SEQ ID NO:10;
 - a nucleic acid sequence that hybridizes under stringent conditions to SEQ ID NO:10 or the complement thereof;
 - a nucleic acid sequence encoding a protein at least about 80% identical to SEQ ID NO:11; and

a nucleic acid sequence encoding a protein that is immunoreactive with an antibody prepared using SEQ ID NO:11 as an antigen, the antibody being immunoreactive with SEQ ID NO:11;

- c) a 3' transcription terminator; and
- d) a 3' polyadenylation signal sequence that directs the addition of polyadenylate nucleotides to the 3' end of RNA transcribed from the structural nucleic acid sequence.

14. A genetically transformed plant comprising in the 5' to 3' direction:

- a) a promoter that directs transcription of a structural nucleic acid sequence encoding a polyhydroxyalkanoate synthase protein;
- b) a structural nucleic acid sequence encoding a polyhydroxyalkanoate synthase protein; wherein the structural nucleic acid sequence is selected from the group consisting of:
 - a nucleic acid sequence at least about 80% identical to SEQ ID NO:10;
 - a nucleic acid sequence that hybridizes under stringent conditions to SEQ ID NO:10 or the complement thereof;
 - a nucleic acid sequence encoding a protein at least about 80% identical to SEQ ID NO:11; and
 - a nucleic acid sequence encoding a protein that is immunoreactive with an antibody prepared using SEQ ID NO:11 as an antigen, the antibody being immunoreactive with SEQ ID NO:11;

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- c) a 3' transcription terminator; and
- d) a 3' polyadenylation signal sequence that directs the addition of polyadenylate nucleotides to the 3' end of RNA transcribed from the structural nucleic acid sequence.